UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,364	11/26/2003	Masaya Tamura	36856.1147	6134

54066 7590 02/07/2006

MURATA MANUFACTURING COMPANY, LTD.
C/O KEATING & BENNETT, LLP
8180 GREENSBORO DRIVE
SUITE 850
MCLEAN, VA 22102

EXAMINER	
DANG, ROBERT TRONG	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/721,364	TAMURA, MASAYA	
	Examiner	Art Unit	
	Robert T. Dang	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/26/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 17-20* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/26/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al (6424504).

As to claim 1, Abe discloses in figure 6, an electrostatic actuator comprising: a substrate (2); a stationary electrode (elements 5 to 10) including a plurality of electrode plates (elements 5a to 10a) disposed on the substrate in a comb-like pattern; and a movable piece (3) supported on the substrate and including a movable electrode (elements 41 to 43) including a plurality of electrode plates (elements 41a to 43a) extending toward the electrode plates of the stationary electrode and arranged in a comb-like pattern (see col. 6, lines 47-50) ; wherein in one of the stationary electrode and the movable electrode, at least one of the lengths of the plurality of electrode plates is different from a length of another of the plurality of electrode plates (see col. 3, lines 11-26); and the movable electrode displaces the movable piece by an electrostatic force generated between the movable electrode and the stationary electrode (see claim 1).

As to claim 2, Abe discloses in figure 6, wherein in the other of the stationary electrode and the movable electrode, at least one of the lengths of the electrode plates

is different from a length of another of the plurality of electrode plates (see col. 3, lines 11-26)

As to claim 3, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths which are stepwise different from each other (see col. 3, lines 11-26).

As to claim 4, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths which are stepwise (see col. 2, lines 45-47) decreased in order from an electrode plate nearest to the movable piece to an electrode plate farthest from the movable piece (see claim 1).

As to claim 5, Abe discloses in figure 6, wherein the plurality electrode plates of at least one of the stationary electrode and the movable electrode define sets of electrode plates having equal lengths; and the length of at least one set of electrode plates is different from the length of another set of electrode plates (see claim 1).

As to claim 6, Abe discloses in figure 6, wherein of the plurality of electrode plates of at least the other of the stationary electrode and the movable electrode, the electrode plates of the other electrode to be moved into the spaces between the sets of the electrode plates of the one electrode for meshing have widths larger than those of the adjacent electrode plates of the other electrode.

As to claim 7, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode includes at least two electrode plates which have lengths which are equal to each other (see claim 1).

As to claim 8, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths, which are stepwise (see col. 2, lines 45-47) different from each other (see claim 1).

As to claim 9, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths which are stepwise decreased in order from an electrode plate nearest to the movable piece (see claim 1).

As to claim 10, Abe discloses in figure 6, wherein the plurality electrode plates of at least one of the stationary electrode and the movable electrode define sets of electrode plates having equal lengths; and the length of at least one set of electrode plates is different from the length of another set of electrode plates (see claim 1.)

As to claim 11, Abe discloses in figure 6, wherein of the plurality of electrode plates of at least the other of the stationary electrode and the movable electrode, the electrode plates of the other electrode to be moved into the spaces between the sets of the electrode plates of the one electrode for meshing have widths larger than those of the adjacent electrode plates of the other electrode.

As to claim 12, Abe discloses in figure 6, wherein the plurality electrode plates of at least one of the stationary electrode and the movable electrode define sets of electrode plates having equal lengths; and the length of at least one set of electrode , plates is different from the length of another set of electrode plates (see col. 7, lines 18-25)

As to claim 13, Abe discloses in figure 6, wherein of the plurality of electrode plates of at least the other of the stationary electrode and the movable electrode, the electrode plates of the other electrode to be moved into the spaces between the sets of the electrode plates of the one electrode for meshing have widths larger than those of the adjacent electrode plates of the other electrode.

As to claim 14, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode define sets of electrode plates having equal lengths; and the length of at least one set of electrode plates is different from the length of another set of electrode plates (see claim 1).

As to claim 15, Abe discloses in figure 6, wherein of the plurality of electrode plates of at least the other of the stationary electrode and the movable electrode, the electrode plates of the other electrode to be moved into the spaces between the sets of the electrode plates of the one electrode for meshing have widths larger than those of the adjacent electrode plates of the other electrode.

As to claim 17, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths which are stepwise increased in order from an electrode plate nearest to the movable piece to an electrode plate farthest from the movable piece (see claim 1).

As to claim 18, Abe discloses in figure 6, wherein the plurality of electrode plates of at least one of the stationary electrode and the movable electrode have lengths which are stepwise (see col. 2, lines 45-47) changed in a convex line in order from an

electrode plate nearest to the movable piece to an electrode plate farthest from the movable piece (see claim 1).

As to claims 19-20, Abe discloses in figure 5, wherein in the other of the stationary electrode and the movable electrode, a width of at least one of the electrode plates is different from a width of another of the electrode plates.

Allowable Subject Matter

3. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

For claim 16, the prior art of record does not disclose or suggest in the claimed combination: comprising inclined portions disposed between the plurality of electrode plates of the stationary electrode.

The art of record does not disclose or suggest the above claimed features, nor would it be obvious to modify the art of record so as to include either of the above limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Dang whose telephone number is 571-272-8326. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTD

Adolf Denelle Berhane
Primary Examiner